Earth Science

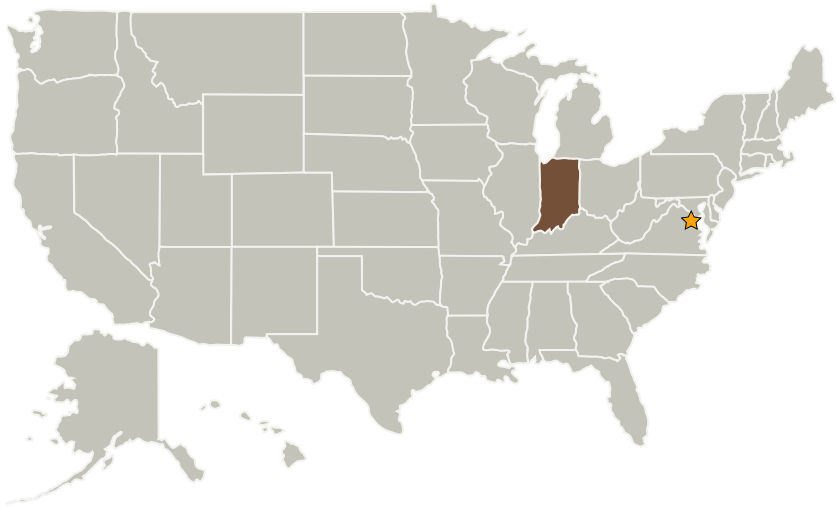
Advancement of the O2 Subsystem to Demonstrate Retrieval of XCO2 Using Simultaneous Laser Absorption Spectrometer Integrated Column Measurements of CO2 and O2

Completed Technology Project (2012 - 2014)

Project Introduction

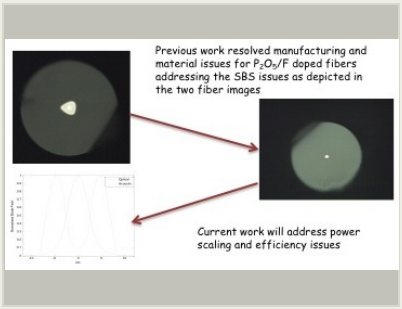
Achieve scalability of a 1.26 µm fiber Raman amplifier (FRA) to 5W with an optical-to-optical efficiency of >50%, that is compatible with ITT's modulated CW Laser Absorption Spectrometer (LAS) in support of the ASCENDS mission. Advance the retrieval/software tools to demonstrate the retrieval of dry air mixing ratio of CO2 using simultaneous active O2 and CO2 integrated column measurements.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★NASA Headquarters(HQ)	Lead Organization	NASA Center	Washington, District of Columbia
ITT Industries, Incorporated	Supporting Organization	Industry	

Primary U.S. Work Locations
Indiana



Project Image Advancement of the O2 Subsystem to Demonstrate Retrieval of XCO2 Using Simultaneous Laser Absorption Spectrometer Integrated Column Measurements of CO2 and O2

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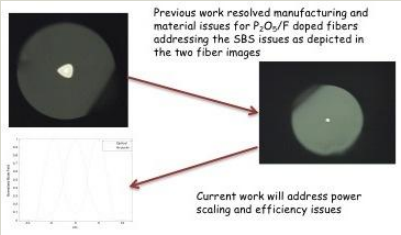
Images



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Project Image Advancement of the O2 Subsystem to Demonstrate Retrieval of XCO2 Using Simultaneous Laser Absorption Spectrometer Integrated Column Measurements of CO2 and O2
(https://techport.nasa.gov/image/1552)

Organizational Responsibility

Responsible Mission Directorate:
Science Mission Directorate (SMD)

Lead Center / Facility:
NASA Headquarters (HQ)

Responsible Program:
Earth Science

Project Management

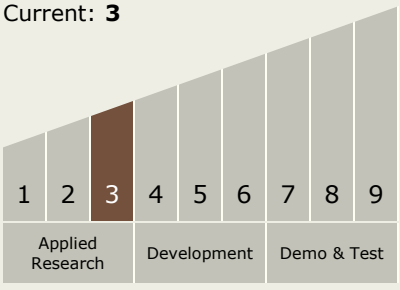
Program Director:
George J Komar

Project Manager:
Joseph Famiglietti

Principal Investigator:
Jeremy T Dobler

Technology Maturity (TRL)

Start: **3**
Current: **3**



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Completed Technology Project (2012 - 2014)

Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.5 Lasers

Target Destination

Earth